AMENDMENTS

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A liquid crystal display device, comprising:

a first substrate and a second substrate opposing each other;

a liquid crystal layer formed between the first substrate and the second substrate;

a plurality of scanning bus lines and a plurality of data bus lines arranged in a matrix form to define a plurality of pixel areas;

a plurality of TFT devices formed in the plurality of pixels, respectively; and

a plurality of pixel electrode layers formed in the plurality of pixels, respectively;

wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and

wherein, in each pixel area, a first space between the first data bus line and the periphery of the pixel electrode layer is different from a second space between the second data bus line and the periphery of the pixel electrode layer.

2. (Original) The liquid crystal display device as claimed in claim 1, further comprising:

an alignment film of a rubbing direction in the plurality of pixels, respectively;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of

the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first space adjacent to the liquid crystal reverse region is larger than the second space adjacent to the liquid crystal non-reverse region.

3. (Original) The liquid crystal display as claimed in claim 2, wherein the first space is 4~5μm and the second space is 2~3μm.

4. (Original) The liquid crystal display device as claimed in claim 1, further comprising:

an opaque layer overlapping the first data bus line, the second data bus line, the first space and the second space; and

a plurality of light-shielding layers formed in the plurality of pixel areas, respectively;

wherein, in each pixel area, a first light-shielding layer is formed between the first data bus line and the periphery of the pixel electrode layer; and

wherein, in each pixel area, a second light-shielding layer is formed between the second data bus line and the periphery of the pixel electrode layer; and

wherein, a first overlapping width is defined between the opaque layer and the first light-shielding layer, and a second overlapping width is defined between the opaque layer and the second light-shielding layer.

5. (Original) The liquid crystal display as claimed in claim 4, wherein the first overlapping width is equal to the second overlapping width.

6. (Original) The liquid crystal display as claimed in claim 4, wherein the first overlapping width is different from the second overlapping width.

7. (Original) The liquid crystal display device as claimed in claim 6, further comprising:

an alignment film of a rubbing direction formed in the plurality of pixels, respectively;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first overlapping width adjacent to the liquid crystal reverse region is larger than the second overlapping width adjacent to the liquid crystal non-reverse region.

8. (Original) The liquid crystal display as claimed in claim 7, wherein the first overlapping width is 6.5~7.5μm and the second overlapping width is 4.5~5.5μm.

9. (Original) The liquid crystal display device as claimed in claim 4, wherein the second substrate further comprises:

a gate insulating layer formed overlying the second substrate and covering the scanning bus lines and the light-shielding layers, in which the data bus lines are formed overlying the gate insulating layer; and

a passivation layer formed overlying the gate insulating layer and covering the data bus lines, in which the pixel electrode layers are formed overlying the passivation layer.

10. (Original) The liquid crystal display as claimed in claim 1, wherein the first substrate further comprises a color filter layer and a common electrode layer.

11. (Original) A liquid crystal display device, comprising:

a first substrate and a second substrate opposing to each other;

a liquid crystal layer formed between the first substrate and the second substrate;

a plurality of scanning bus lines and a plurality of data bus lines arranged in a matrix form to define a plurality of pixel areas;

a plurality of TFT devices formed in the plurality of pixels, respectively;

a plurality of pixel electrode layers formed in the plurality of pixels, respectively;

a plurality of light-shielding layers formed in the plurality of pixel areas overlying the second substrate, respectively; and

an opaque layer formed overlying the first substrate;

wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line, in which a first distance is kept between the first data bus line and the periphery of the pixel electrode layer, and a second space is kept between the second data bus line and the periphery of the pixel electrode layer;

wherein, in each pixel area, a first light-shielding layer is formed between the first data bus line and the periphery of the pixel electrode layer, and a second light-shielding layer is formed between the second data bus line and the periphery of the pixel electrode layer;

wherein, the opaque layer overlaps the first data bus line, the second data bus line, the first space and the second space;

wherein, in each pixel area, a first overlapping width between the opaque layer and the first light-shielding layer is different from a second overlapping width between the opaque layer and the second light-shielding layer.

12. (Original) The liquid crystal display device as claimed in claim 11, further comprising:

an alignment film of a rubbing direction formed in the plurality of pixels, respectively;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first overlapping width adjacent to the liquid crystal reverse region is larger than the second overlapping width adjacent to the liquid crystal non-reverse region.

13. (Original) The liquid crystal display as claimed in claim 12, wherein the first overlapping width is 6.5~7.5μm and the second overlapping width is 4.5~5.5μm.

14. (Original) The liquid crystal display as claimed in claim 11, wherein the first space is equal to the second space.

15. (Original) The liquid crystal display as claimed in claim 11, wherein the first space is different from the second space.

16. (Original) The liquid crystal display device as claimed in claim 15, further comprising:

an alignment film of a rubbing direction formed in the plurality of pixels, respectively;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first space adjacent to the liquid crystal reverse region is larger than the second space adjacent to the liquid crystal non-reverse region.

17. (Original) The liquid crystal display as claimed in claim 16, wherein the first overlapping width is 4~5μm and the second overlapping width is 2~3μm.

18. (Original) The liquid crystal display device as claimed in claim 11, wherein the second substrate further comprises:

a gate insulating layer formed overlying the second substrate and covering the scanning bus lines and the light-shielding layers, in which the data bus lines are formed overlying the gate insulating layer; and

a passivation layer formed overlying the gate insulating layer and covering the data bus lines, in which the pixel electrode layers are formed overlying the passivation layer.

19. (Original) The liquid crystal display as claimed in claim 11, wherein the first substrate further comprises a color filter layer and a common electrode layer.

20. (Original) A fabrication method for a liquid crystal display device, comprising steps of:

providing a first substrate;

forming a plurality of scanning bus lines and a plurality of light-shielding layers overlying the first substrate;

forming a gate insulating layer overlying the first substrate to cover the scanning bus lines and the light-shielding layers;

forming a plurality of data bus lines overlying the gate insulating layer, in which the data bus lines and the scanning bus lines are arranged in a matrix form to define a plurality of pixel areas;

forming a plurality of TFT devices in the plurality of pixels, respectively; and

forming a plurality of pixel electrode layers overlying the passivation layer in the plurality of pixels, respectively;

wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and

wherein, in each pixel area, a first space between the first data bus line and the periphery of the pixel electrode layer is different from a second space between the second data bus line and the periphery of the pixel electrode layer.

21. (Original) The fabrication method for a liquid crystal display device as claimed in claim 20, further comprising a step of:

forming an alignment film of a rubbing direction overlying the pixel electrode and the passivation layer;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first space adjacent to the liquid crystal reverse region is larger than the second space adjacent to the liquid crystal non-reverse region.

22. (Original) The fabrication method for a liquid crystal display device as claimed in claim 21, wherein the first space is 4~5μm and the second space is 2~3μm.

23. (Original) The fabrication method for a liquid crystal display device as claimed in claim 20, further comprising steps:

providing a second substrate opposing to the first substrate; and

forming an opaque layer overlying the second substrate, in which the opaque layer overlaps the first data bus line, the second data bus line, the first space and the second space;

wherein, in each pixel area, the first light-shielding layer is formed between the first data bus line and the periphery of the pixel electrode layer;

wherein, in each pixel area, the second light-shielding layer is formed between the second data bus line and the periphery of the pixel electrode layer; and

wherein, a first overlapping width is defined between the opaque layer and the first light-shielding layer, and a second overlapping width is defined between the opaque layer and the second light-shielding layer.

24. (Original) The fabrication method for a liquid crystal display as claimed in claim 23, wherein the first overlapping width is equal to the second overlapping width.

25. (Original) The fabrication method for a liquid crystal display as claimed in claim 23, wherein the first overlapping width is different from the second overlapping width.

26. (Original) The fabrication method for a liquid crystal display as claimed in claim 25, further comprising a step of:

forming an alignment film of a rubbing direction overlying the pixel electrode layer and the passivation layer;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first overlapping width adjacent to the liquid crystal reverse region is larger than the second overlapping width adjacent to the liquid crystal non-reverse region.

27. (Original) The fabrication method for a liquid crystal display as claimed in claim 26, wherein the first overlapping width is 6.5~7.5μm and the second overlapping width is 4.5~5.5μm.

28. (Original) The fabrication method for a liquid crystal display as claimed in claim 23, further comprising steps of:

forming a color filter layer overlying the second substrate;

forming a common electrode layer overlying the color filter layer and the opaque layer; and

forming an alignment layer overlying the common electrode layer.

29. (Original) The fabrication method for a liquid crystal display as claimed in claim 23, further comprising a step of forming a liquid crystal layer between the first substrate and the second substrate.

30. (Original) A fabrication method for a liquid crystal display device, comprising steps of:

providing a first substrate;

forming a plurality of scanning bus lines and a plurality of light-shielding layers overlying the first substrate;

forming a gate insulating layer overlying the first substrate to cover the scanning bus lines and the light-shielding layers;

forming a plurality of data bus lines overlying the gate insulating layer, in which the data bus lines and the scanning bus lines are arranged in a matrix form to define a plurality of pixel areas;

forming a plurality of TFT devices in the plurality of pixels, respectively;

forming a plurality of pixel electrode layers overlying the passivation layer in the plurality of pixels, respectively;

providing a second substrate opposing to the first substrate; and

forming an opaque layer overlying the second substrate;

wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line; and

wherein, in each pixel area, a first space is kept between the first data bus line and the periphery of the pixel electrode layer, and a second space is kept between the second data bus line and the periphery of the pixel electrode layer; and

wherein, in each pixel area, a first light-shielding layer is formed between the first data bus line and the periphery of the pixel electrode layer, and a second light-shielding layer is formed between the second data bus line and the periphery of the pixel electrode layer; and

wherein, the opaque layer overlaps the first data bus line, the second data bus line, the first space and the second space; and

wherein, a first overlapping width between the opaque layer and the first light-shielding layer is different from a second overlapping width between the opaque layer and the second light-shielding layer.

31. (Original) The fabrication method for a liquid crystal display device as claimed in claim 30, further comprising a step of:

forming an alignment film of a rubbing direction overlying the pixel electrode and the passivation layer;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first overlapping width adjacent to the liquid crystal reverse region is larger than the second overlapping width adjacent to the liquid crystal non-reverse region.

32. (Original) The fabrication method for a liquid crystal display device as claimed in claim 31, wherein the first space is 6.5~7.5μm and the second space is 4.5~5.5μm.

33. (Original) The fabrication method for a liquid crystal display as claimed in claim 30, wherein the first space is equal to the second space.

34. (Original) The fabrication method for a liquid crystal display as claimed in claim 30, wherein the first space is different from the second space.

35. (Original) The fabrication method for a liquid crystal display as claimed in claim 34, further comprising a step of:

forming an alignment film of a rubbing direction overlying the pixel electrode layer and the passivation layer;

wherein, when an included angle between the rubbing direction and the data bus line is 40~50 degrees, the first space between the first data bus line and the periphery of the pixel electrode layer is a liquid crystal reverse region, and the second space between the second data bus line and the periphery of the pixel electrode is a liquid crystal non-reverse region; and

wherein, the first space adjacent to the liquid crystal reverse region is larger than the second space adjacent to the liquid crystal non-reverse region.

36. (Original) The fabrication method for a liquid crystal display as claimed in claim 35, wherein the first overlapping width is 4~5μm and the second overlapping width is 2~3μm.

37. (Original) The fabrication method for a liquid crystal display as claimed in claim 30, further comprising steps of:

forming a color filter layer overlying the second substrate;

forming a common electrode layer overlying the color filter layer and the opaque layer; and

forming an alignment layer overlying the common electrode layer.

38. (Original) The fabrication method for a liquid crystal display as claimed in claim 30, further comprising a step of forming a liquid crystal layer between the first substrate and the second substrate.